GENERAL NOTES FOR SWIMMING POOLS AND SPAS

1. Buried Poly Ethylene (PE) pipe gas lines shall be 18" below finish grade or in an approved recessed channel with 14 gauge insulated tracer wire; **Galvanized malleable iron, galvanized wrought iron, or galvanized steel, are prohibited materials for use underground. TESTING: TEST PRESSURE SHALL BE 3lbs FOR 10 MINUTES. (1214.3.2 CMC)**

2. Gas lines 6" or more above finish grade may be of Schedule 40 iron pipes without wrapping.

3. Piping installed above ground shall be securely supported and located where it will be protected from physical damage. (Sec. 1211 U. P. C.)

4. Anti-entrapment type drain covers required per ASME/ANSI Standard A 112.19.8.

5. P-traps are required for all pools and spas.

6. Swimming pools or spas shall have at least two circulation drains per pump that shall be hydraulically balanced and symmetrically plumbed through one or more "T" fitting, and that are separated by a distance of at least three feet in any dimension between the drains.

7. Gas shutoff valve to be within 3 ft. of equipment are required for PE pipe. (Sec. 1210 U.P.C.)

8. Equipment venting to be a minimum of 4 ft. from building openings (Sec. 806.7 U.M.C.) and 4 feet from the property line. (Sec. 416.6 Uniform Swimming Pool Code)

9. Non metallic electrical conduit shall be 18" below finish grade (P.V.C.) and 6" when below concrete and bonded per Art. 680 N.E.C. (See table 300-5 for more information)

10. Hydrostatic relief valve is required for all pools and spas unless a soils report states otherwise.

11. **Electric Pool Water Heaters.** All electric pool water heaters shall have the heating elements subdivided into loads not exceeding 48 amperes and protected at not more than 60 amperes.

    The ampacity of the branch-circuit conductors and the rating or setting of overcurrent protective devices shall not be less than 125 percent of the total load of the nameplate rating. (Art. 680-9 N.E.C.)

12. **Underground Wiring Location.** Underground wiring **shall not be** permitted under the pool **or** within the area extending 5 feet **horizontally from** the inside **wall of** the pool. (Art. 680-10)

    a. Exception No. 1: Wiring necessary to supply pool equipment permitted by this article shall be allowed within this area.

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b. Exception No. 2: Where space limitations prevent wiring from being muted 5 feet or more from the pool such wiring shall be permitted where installed in rigid metal conduit, intermediate metal conduit or a nonmetallic raceway system. All metal conduits shall be corrosion-resistant and suitable for the location. The minimum burial depth shall be as follows:

Wiring Method	Minimum Burial (Inches)
Rigid Metal Conduit	6
Intermediate Metal Conduit	6
Rigid Nonmetallic Conduit Approved for Direct Burial without Concrete Encasement	18
Other Approved Raceways*	18

13. Underwater lighting fixtures shall be per Article 680-20 N.E.C.

14. Fencing shall be a minimum of 5 feet high with 4 inches maximum between vertical members, and 2 inches maximum between horizontal members. Bottom of fence to be within 2 inches of firm soil or 4 inches to pavement. A self-closing and self-latching gate, swinging away from the pool, with the latch at a minimum of 5 feet above grade. A 48" vertical non climbable portion in fence is required.

15. Pool and spa lights to be G.F.I. protected.

16. A convenience outlet shall be provided no closer than 10' and no more than 20 feet from water's edge and shall be G.F.I. protected (Per Nec 680-6).

17. Hose bibs must have anti siphon.

18. Paint all exposed ABS and PVC with a water base synthetic Lucite paint unless piping is labeled UV resistant.

19. Handrail is required for two or more steps leading to a slide. If over 30" in height then guardrails are required. If there is a permanent barrier, then this requirement can be omitted at the inspector's discretion.

20. Swimming pool heating system must contain the following measures mandated by the State Energy Regulations:

    a. Heater on-off switch mounted on the outside of the heater for easy access to allow shutting off the operation of the heater without adjusting the thermostat setting and to allow restarting without relighting the pilot light.

    b. A permanent weatherproof plate or card, easily readable, giving instructions for the energy efficient operation of the swimming pool for the proper care of swimming pool when a swimming pool cover is used.

    c. A length of plumbing (36 inches minimum) between the filter and the fossil fuel heater to allow for the future addition of solar heating equipment.

    d. Any fossil-fueled swimming pool heater shall have a thermal efficiency of at least 75 percent and shall be so identified on the plans and the heater.

    e. Outdoor pools equipped with a fossil fuel or electric heater shall also be equipped with a pool cover.

    f. Time clock shall be Installed on pool circulation pump.

    g. Swimming pool shall be equipped with directional inlet which provides for adequate mixing of the pool water.

21. All exposed metals measuring over 4 inches in dimension within 5 feet horizontally and 12 feet above the pool/spa shall be bonded together.

22. Protective Barriers required for equipment in garage (Sec. 508).

23. Minimum of 18 inches above floor level is required for equipment located in the garage which generates a glow, spark or flame (Sec. 508).

24. If equipment is installed within garage and has a separate approved compartment, air shall be taken from and discharged to the exterior of the garage.

25. A special inspector certified by the City of Lake Forest shall be present during the placement of all gunite.

26. At least one of the following safety features listed below must be incorporated into your plans:

    a. The pool shall be isolated from access to the home by an enclosure that meets the requirements of California Health & Safety Code Section 115923.

    b. The residence shall be equipped with exit alarms on those doors providing direct access to the pool.

    c. All doors providing direct access from the home to the swimming pool shall be equipped with a self-closing, self-latching device with a release mechanism placed no lower than 60 inches above the ground.

    d. The pool shall incorporate removable mesh pool fencing that meets American Society for Testing and Materials (ASTM) Specifications F 2286 standards in conjunction with a gate that is self-closing and self-latching and can accommodate a key lockable device.

    e. The pool shall be equipped with an approved safety pool cover that meets all requirements of the ASTM Specifications F 1346.

    f. Swimming pool alarms that, when placed in pools, will sound upon detection of accidental or unauthorized entrance into the water. These pool alarms shall meet and be independently certified to the ASTM Standard F 2208."Standards Specification for Pool Alarms" which includes surface motion, pressure, sonar, laser, and infrared type alarms. For purposes of this article, "swimming pool alarms" shall not include a swimming protection alarm devices designed for individual use, such as an alarm attached to a child that sounds when the child exceeds a certain distance or becomes submerged in water.

    g. Other means of protection, if the degree of protection afforded is equal to or greater than the afforded by any of the devices set forth above, and have been independently verified by an approved testing laboratory as meeting standards for those devices established by the ASTM or the American Society of Mechanical Engineers (ASME).

    Note: Prior to the issuance of any final approval for the completion of permitted construction or remodeling work, the local building code official shall inspect the drowning safety prevention devices required by this act and if no violations are found, shall give final approval.

27. Place the following stormwater pollution notes on the plans:

Stormwater Pollution Prevention Notes:

Stormwater pollution prevention devices and practices shall be installed and/or instituted as necessary to ensure compliance to the City of Lake Forest Water Quality standards contained in Chapter 3. Water, of Division 8 of Title 6 of the Lake Forest Municipal Code and any Erosion Control Plan associated with this project. All such devices and practices shall be maintained, inspected and/or monitored to ensure adequacy and proper function throughout the duration of the construction project.

Compliance to the Water Quality standards and any Erosion Control Plan associated with this project includes, but is not limited to the following requirements:

1. Sediments and other pollutants shall be retained on site until properly disposed of, and may not be transported from the site via sheet flow, swales, area drains, natural drainage courses or wind.

2. Stockpiles of earth and other construction-related materials shall be protected from being transported from the site by the forces of wind and water flow.

3. Fuels, oils, solvents, and other toxic materials shall be stored in accordance with their listing and are not to contaminate the soil and surface waters. All approved storage containers are to be protected from the weather. Spills must be cleaned up immediately and disposed of in a proper manner. Spills may not be washed into the drainage system, nor be allowed to settle or infiltrate into soil.

4. Excess or waste concrete may not be washed into the public way or any other drainage system. Provisions shall be made to retain concrete wastes on site until they can be disposed of as solid wastes.

5. Trash and construction solid wastes shall be deposited into a covered receptacle to prevent contamination of rainwater and dispersal by wind.

6. Sediments and other materials may not be tracked from the site by vehicular traffic. The construction entrance roadways must be stabilized so as to inhibit sediments from being deposited into the public way. Accidental deposits shall be swept up immediately and may not be washed down by rain or other means.

7. Any slopes with disturbed soils or removed vegetation shall be stabilized to inhibit erosion by wind and water.

8. Stormwater pollution prevention devices and/or practices shall be modified as needed as the project progresses to ensure effectiveness.

Energy Mandatory Requirements for Pool and Spa Heating Systems and Equipment

1. **Certification by Manufacturers.** Any pool or spa heating system or equipment may be installed only if the manufacturer has certified that the system or equipment has all of the following:

a. **Efficiency.** A thermal efficiency that complies with the Appliance Efficiency Regulations; and

b. **On-off switch.** A readily accessible on-off switch, mounted on the outside of the heater that allows shutting off the heater without adjusting the thermostat setting; and

c. Instructions. A permanent, easily readable, and weatherproof plate or card that gives instruction for the energy efficient operation of the pool or spa and for the proper care of pool or spa water when a cover is used; and

d. **Electric resistance heating.** No electric resistance heating; and

e. **EXCEPTION 1 to Section 114(a) 4:** listed package units with fully insulated enclosures, and with tight-fitting covers that are insulated to at least R-6.

f. **EXCEPTION 2 to Section 114(a) 4:** pools or spas deriving at least 60 percent of the annual heating energy from site solar energy or recovered energy.

g. Pilot light. No pilot light.

2. Installation. Any pool or spa heating system or equipment shall be installed with all of the following:

a. Piping. At least 36 inches of pipe between the filter and the heater to allow for the future addition of solar heating equipment; and

b. Covers. A cover for outdoor pools or outdoor spas; and

c. EXCEPTION to Section 114(a) 2: Pools or spas deriving at least 60 percent of the annual heating energy from site solar energy or recovered energy.

d. Directional inlets and time switches for pools. If the system or equipment is for a pool:
The pool shall have directional inlets that adequately mix the pool water; and the circulation pump shall have a time switch that allows the pump to be set to run in the off-peak electric demand period and for the minimum time necessary to maintain the water in the condition required by applicable public health standards.

EXCEPTION to Section 114(b) 3: where applicable public health standards require on-peak operation.